

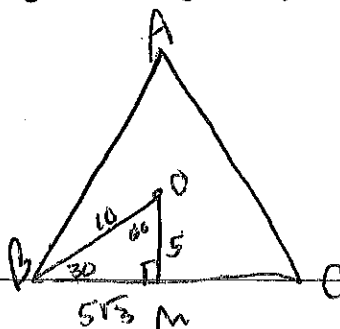
Name Key

Date _____

Regular Triangular Pyramids

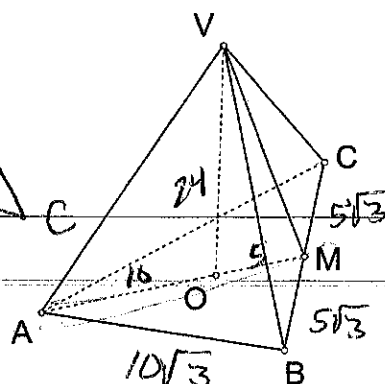
$$\begin{aligned} 1. \quad OM &= \underline{5} \\ OA &= \underline{10} \\ VA &= \underline{24} \\ AB &= 10\sqrt{3} \\ VO &= 24 \end{aligned}$$

$$\sqrt{676}$$



$$B = \frac{1}{2} 15 \cdot 10\sqrt{3} = 75\sqrt{3}$$

$$\text{Volume} = \frac{1}{3} 24 \cdot 75\sqrt{3} = 600\sqrt{3}$$



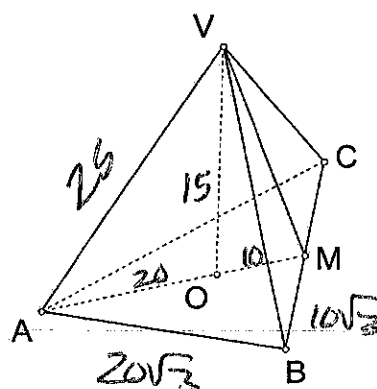
$$\begin{aligned} 2. \quad OM &= \underline{10} \\ OA &= \underline{20} \\ VA &= \underline{25} \\ AB &= 20\sqrt{3} \\ VO &= \underline{15} \\ VM &= \underline{5\sqrt{3}} \approx 8.0 \end{aligned}$$

$$\sqrt{225}$$

$$100 + 225 = 325$$

$$LA = 936.7 \quad \frac{1}{2} 60\sqrt{3} \cdot 18.0$$

$$V = \frac{1}{3} 300\sqrt{3} \cdot 15 = 1500\sqrt{3}$$



$$B = \frac{1}{2} 20\sqrt{3} \cdot 30 = 300\sqrt{3}$$

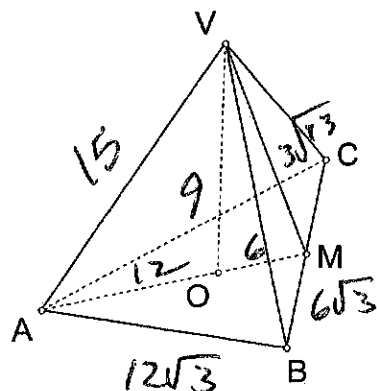
$$\begin{aligned} 3. \quad OM &= \underline{6} \\ OA &= \underline{12} \\ VA &= \underline{15} \\ AB &= 12\sqrt{3} \\ VO &= \underline{9} \\ VM &= \underline{3\sqrt{3}} \approx 5.2 \end{aligned}$$

$$81 + 144 = 225$$

$$81 + 36 = \sqrt{117} = 3\sqrt{13}$$

$$LA = 337.2 \quad \frac{1}{2} 36\sqrt{3} \cdot 10.4$$

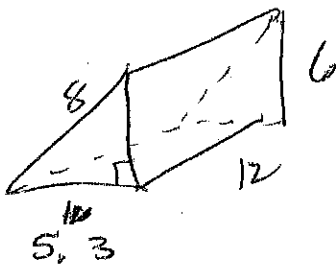
$$V = \frac{1}{3} 187.1 \cdot 9 = 561.2$$



$$B = \frac{1}{2} 12\sqrt{3} \cdot 18 = 108\sqrt{3} = 187.1$$

p659

3.



$$LA = ph$$

$$p = 19.3$$

$$LA = 231.5$$

$$= 19.3 \cdot 12$$

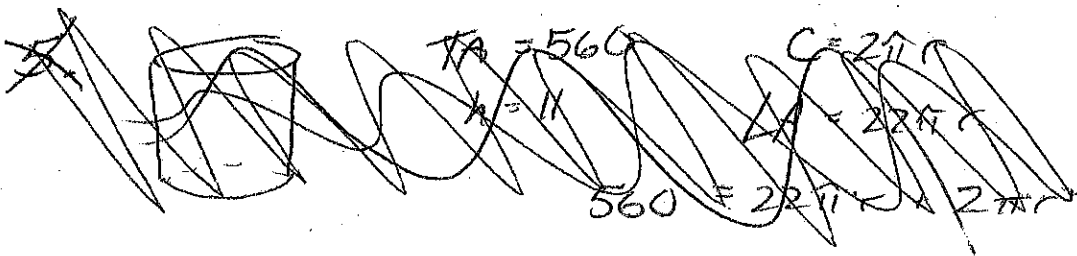
$$= 231.5 \text{ m}^2$$

p659 3,4

p670 1-5

p701 2-4

$$4. TA = 231.5 + \left(\frac{1}{2} 6 \cdot 5.3 \right) = 247.4 + 15.9 = 263.3 \text{ m}^2$$



p670

1. $p = 48 \text{ cm}$ $l = 11.7$ $2. p = 24 \text{ in}$

$$B = 144 \text{ cm}^2$$

$$LA = \frac{1}{2} 48 \cdot 11.7$$

$$279.9 \text{ cm}^2$$

$$TA = 279.9 + 144$$

$$423.9 \text{ cm}^2$$

$$B = \frac{1}{2} 24 \cdot 24$$

$$288 \text{ in}^2$$

$$LA = \frac{1}{2} 24 \cdot 11$$

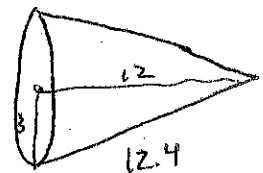
$$132 \text{ in}^2$$

$$TA = 132 + 288$$

$$420 \text{ in}^2$$



3.



$$p = 6\pi \text{ ft}$$

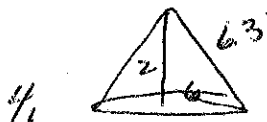
$$B = 9\pi \text{ ft}^2$$

$$LA = \frac{1}{2} 6\pi \cdot 12.4$$

$$37.2\pi \text{ ft}^2$$

$$TA = 37.2\pi + 9\pi$$

$$46.2\pi = 145.1 \text{ ft}^2$$



$$C = 12\pi$$

$$B = 36\pi$$

$$LA = \frac{1}{2} 12\pi \cdot 6.3$$

$$TA = 37.8\pi + 36\pi = 73.8\pi$$

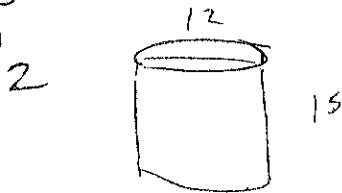
$$5. LA = \frac{1}{2} p l$$

$$123 = \frac{1}{2} 20\pi \cdot l$$

$$123 = 10\pi l$$

$$3.9 \text{ in} = l$$

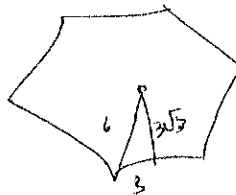
p. 701



$$V = 36\pi \cdot 15$$

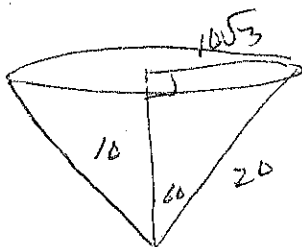
$$540\pi \approx 1966.5 \text{ m}^3$$

$$3. \quad V = 54\sqrt{3} / 10 = 540\sqrt{3} = 935.3 \text{ cm}^3$$



$$B = \frac{1}{2} 3\sqrt{3} \cdot 36$$

4.



$$B = \frac{(10\sqrt{3})^2 \pi}{300\pi}$$

$$B = 1$$

$$V = \frac{1}{3} (300\pi) 10 = 1000\pi \approx 3141.6 \text{ ft}^3$$